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Abstract

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Keywords

problem based learning, scenario based learning, active learning, student-centered learning, composition courses, situated learning, CLA+

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Contextualized Writing: Promoting Audience-Centered Writing through Scenario-Based Learning

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Scenario-based learning is an approach for student-centered learning used in the medical and legal fields, but is little used in liberal arts. In this study, I examine students' understanding and application of audience-centered writing techniques after a semester of formal scenario-based essays and problem-based activities. Comparing the grades of two experimental groups and one control group showed consistently higher class averages in the two experimental groups exposed to the problem-based scenarios, averages one to two letter grades higher than that of the control group. The findings also revealed increased critical thinking, problem solving, and decision making. The summative assessment was grant funded and used the Collegiate Learning Assessment Plus (CLA+). The final results of the study yielded significance.

INTRODUCTION

Relevance stimulates passion and perseverance. Students who believe the course material is relevant to their lives will pay attention, be intrinsically motivated, and begin to see the transferability and application of content skills to other disciplines. Content skills refer to the knowledge, threshold concepts, and attitudes required to succeed in a specific discipline. Relevance of content skills increases student success. While the professor as disciplinary expert readily sees the importance of the subject matter and skill set, students do not always grasp how the class' intended learning outcomes will benefit them after course completion, especially in the General Education courses, courses that provide a foundation for a student's academic career. The responsibility of meaning-making is in the hands of the students. No amount of teacher-centered instruction will give that epiphany to the students, rather students must recognize the connections themselves. Student-centered learning approaches involving such active learning techniques as problem-based learning, inquiry-based learning, and case-based learning place the meaning-making in the hands of the student and have thus become the preferred approach within such fields as medical, legal, and military studies. These learning techniques utilize hypothetical but realistic scenarios to encourage students to explore the subject in context of a real-world situation. Rarely are such strategies seen in General Education (Gen Ed) courses, however. An assignment involving a realistic or authentic situation that a practitioner in the field is likely to face in the workplace makes sense as a teaching tool to a pre-med student, but not as obvious a tool for students in Gen Ed courses. Given the customization opportunities of these assignments and the breadth of skills honed during the activity process, the inclusion of such techniques could benefit students taking Gen Ed courses. Given the success of this study, which was to determine the effectiveness of using authentic projects to master the course's intended learning outcomes, the purpose of this article is to promote the use of authentic projects in General Education courses.

Theoretical Framework

Learning, as seen from the constructivist, situated, and experiential learning theories, does not distinguish the pre-med student from the Gen Ed student, as learning in any context is the result of experience, students engaged in critical thought, challenged

by a task that involves immersion (Bruner, 1966; Kolb, 1984; Lave & Wenger, 1991; Rogers & Freiberg, 1994; Schön, 1983; Vygotsky, 1978). Learning does not come from reading instructions on how to build a house, rather it comes from the process of actually building the house. Students learn by doing through practice and application, observing the successes and mistakes of those around them, as well as reflecting on their own accomplishments mid and post process. Through immersion and reflection, students are actively engaged in their own meaning-making process by experiencing the application of the skill within realistic contexts. Carl Rogers and Jerome Freiberg (1994) emphasize the importance of relevancy, whereby doing alone is not enough for significant learning; students must also see the task as being relevant outside of the immediate context. If the material is relevant, the students are more apt to be motivated, to spark inquisition (Bruner, 1966; Schön, 1983). It is this motivation that will ultimately increase rigor and overall success (Daggett, 2008; Nakamura & Csikszentmihalyi, 2002). Sparking curiosity to motivate the learners and guiding the students through the kinesthetic task so they discover on their own the purpose and application of the material—this is at the heart of student-directed learning strategies such as problem-based learning (Hmelo-Silver, 2004; Ireland, Nickson, Sorin, Caltabiano, & Errington, 2013; Marra, Jonassen, Palmer, & Luft, 2014). Transferability is not the only benefit in this situated learning experience. During the process of working through a problem or a case, the students are also thinking critically, tracing causal relationships and consequences, considering ethical decisions, and, if assigned in such a way by the professor, even collaborating with peers as a team.

As a composition and rhetoric professor, I am forever in search of strategies for increasing relevancy of course learning outcomes. Relevancy, in this instance, is being used as an all-encompassing term for that moment when students not only see the course-affiliated skills as being transferrable, but also discover, in the thick of learning, the usefulness of the course material to their current lives. One of the objectives of a composition and rhetoric course, often noted directly in the course's learning outcomes, is to write adaptably for various audiences and purposes. This is a task people subconsciously do daily, especially in the workplace, be it writing an e-mail to a supervisor, writing a report for a stakeholder, or even outlining meeting minutes for the team. In a world of daily casual communication via Twitter posts and texts to friends, such a task is not as subconscious

for a traditional college student. An e-mail to a professor might read similarly to a Twitter post. While, arguably, nothing is wrong with a traditional teacher-centered approach to classroom instruction, students remain doubtful how to apply writing skills and adapt writing styles for different audiences and purposes. Despite spending an entire semester on writing for various audiences and purposes, the report they write for their biology class echoes in style and organization the essay they write for their composition class. When faced with having to write a press release for their new job post-graduation, do they truthfully reflect on the strategies learned in their freshman composition course?

Discussed among composition professors is the need for students to make connections between college writing and other rhetorical situations in academia, life, and notably the workplace. Students face difficulties with transferring writing skills to contexts outside of the composition classroom (Melzer, 2014). Reflecting on learned and practiced writing strategies within a different context, be that context writing a letter to a landlord or writing a research paper for sociology, is challenging for students who cannot readily see the transferability of the skills learned unless they have engaged in the act of communicating within different discourse communities (Adler-Kassner & Wardle, 2015; Nowacek, 2011; Yancey, 1998). The key to inquiry and motivation is students experiencing writing in various contexts along with reflecting on the given situation's circumstances, causes, and effects (Bruner, 1966; Schön, 1983; Yancey, 1998). Students should engage in realistic and contextual writing that may elicit a response or consequence, intended or unexpected.

Using realistic scenarios customized to the course's learning objectives, should bridge the gap for students between theory and application (Errington, 2008; Errington, 2009; White, 2001). Debates, discussions, research projects, simulations, presentations, and so forth can all center in a problem or situation the students must explore and resolve. The instructor becomes a facilitator or, in the words of Hal White (2001), a "cognitive coach." Realistic scenarios do more than encourage the transferability of course material. They increase critical thinking, analytic reasoning, synthesis, and problem solving skills (Choy & O'Grady, 2012; Friesen & Scott, 2013; Hmelo-Silver, 2004; James, Al Khaja, & Sequeira, 2015; Kadle, 2014; Khan et al, 2015; MacVane Phipps, Whitney, Meddings, & Evans, 2015). The positive impact has been so notable that many schools and programs across the globe have adopted a student-centered inquiry- or problem-based approach for their curriculum, as noted in such case studies as White (2015) at the Tulane School of Public Health and Tropical Medicine, in MacVane Phipps, Whitney, Meddings, and Evans (2015) in the Division of Midwifery at the University of Bradford, in Rimal, Paudel, and Shrestha (2015) at BP Koirala Institute of Health Sciences in Dharan, Nepal, in James, Al Khaja, and Sequeira (2015) in the College of Medicine and Medical Sciences at the Arabian Gulf University in the Kingdom of Bahrain, in Friesen and Scott (2013) by the Alberta Ministry of Education, in Khan (2015) at the Army Medical College in Rawalpindi and many other colleges in Pakistan, and in Lesgold (2001) by the University of Pittsburgh in collaboration with the U.S. Air Force.

This study arose from my desire to find assignments and assessments that would more easily contextualize the skills developed in a composition and rhetoric class, namely the skill of audience-centered writing. The study was designed to determine if students could indeed better contextualize audience-centered

writing with exposure to realistic writing situations. The grading rubric for the formative assessments focused on the audience-centered writing skills discussed during the semester. The rubric for the summative assessment focused on the critical and analytical thinking skills in addition to writing effectiveness. As will be discussed, the results revealed more than was expected and have spurred future research plans.

METHOD

While the primary goal of this study was only to determine if a pragmatic approach to writing would help students better understand audience-centered writing as a core concept of the course and its transferability to other coursework and beyond, other themes surfaced during the informal analysis of instructor observations and student reflection essays and the formal analysis of the objectively scored formative assessment, revealing increased critical thinking, analytic reasoning, synthesis, and problem solving.

The research question fueling the study asked if students better understood the concept of audience-centered writing by the final essay after exploring scenario-based learning (SBL) prompts. The study began with a pilot in the fall semester and the tested study in the spring semester. Both the pilot and the study used three composition courses, one of which was the control group and the other two the experimental groups. Each of the three classes had 22 students enrolled to make for 66 participants.

Participants

The student demographics of the three courses in the study should be considered when examining the A-F success results on the formative assessments and the performance success on the summative assessment. Students in the study are classified as freshmen or sophomore. Table 1 shows the demographics of note, as collected by the Council of Aid to Education during the summative assessment and voluntarily disclosed by the students in the study. To highlight some aspects of the demographics, 40% of the students self-identified as speaking another primary language than English, with 43% claiming a Hispanic or Latino race/ethnicity, 21% White, 7% African-American/Black, and 14% Asian. Only 21% of the students reported their parents graduated college with 55% saying high school was the highest earned degree. Ten percent even reported their parents did not graduate from high school.

Scenario Design

The chosen approach for this study was scenario-based learning (SBL), a subset of problem-based learning and case-based learning (Stewart, 2015). The scenarios used in this study were designed using principles and strategies from Sockalingam and Schmidt (2012), Clark (2009), Kadle (2014), Rico and Ertmer (2015), Nakamura and Csikszentmihalyi, (2002), Hmelo-Silver (2004), and Errington (2005). Each of these researchers offered thoughtful suggestions for wording the scenarios, choosing the topics, collecting the sources, and preparing the most appropriate delivery method for the task based on the student learning objectives (SLOs) and preferred facilitation style. From which to face. The scenario would be tightly designed to give them a role from which to write, say the financial advisor of the company,

Table 1: Demographics of Participants

Primary Language		Race/Ethnicity		Parent Education	
English	60%	Hispanic or Latino	43%	Less than High School	10%
Other	40%	White (including Middle Eastern)	21%	High School	29%
		African-American/Black	7%	Some College	26%
		Asian	14%	Bachelor's Degree	19%
		Other	2%	Graduate Degree	2%
		Decline to State	12%	Don't Know	14%

New Taxonomy Level	Operation	Objectives
Level 6: Self-system Thinking	Examining Importance	The student will be able to analyze importance of knowledge to self.
	Examining Efficacy	The student will be able to examine own beliefs to improve integration of knowledge.
	Examining Emotional Response	The student will be able to identify emotional responses associated with knowledge.
	Examining Motivation	The student will be able to examine motivations to learn and improve.
Level 5: Metacognition	Specifying Goals	The student will be able to establish learning goals and develop a plan for accomplishing the goals.
	Process Monitoring	The student will be able to monitor the process of achieving a goal.
	Monitoring Clarity	The student will be able to determine how well knowledge is understood.
	Monitoring Accuracy	The student will be able to determine accuracy of understanding and defending judgments.
Level 4: Knowledge Utilization	Decision Making	The student will be able to decide, select among similar alternatives, establish criteria, and defend choices.
	Problem Solving	The student will be able to solve, recognize obstacles, adapt, and develop novel strategies to reach goals under difficult conditions.
	Experimenting	The student will be able to experiment, generate, test, theorize, predict, and design new methods of collecting data.
	Investigating	The student will be able to investigate, research, take a position on, distinguish features, explain, think through implications, report results, and generate and test hypotheses.
Level 3: Analysis	Matching	The student will be able to categorize, compare and contrast, differentiate, discriminate, distinguish, and sort.
	Classifying	The student will be able to classify, organize, identify a broader category and different types, and identify superordinate and subordinate categories of information.
	Analyzing Errors	The student will be able to identify errors, problems, issues, or misunderstandings, assess, critique, diagnose, evaluate, revise, and explain logical or factual errors in knowledge.
	Generalizing	The student will be able to construct new generalizations or principles, establish conclusions, elaborate about inferences, and trace chronological development.
	Specifying	The student will be able to judge, predict, deduce, and argue for cause or predictions.
Level 2: Comprehension	Integrating	The student will be able to identify the basic structure, describe how or why, describe the relationship between, and discern essential from nonessential elements.
	Symbolizing	The student will be able to diagram, depict, represent, illustrate, and symbolize.
Level 1: Retrieval	Recognizing	The student will be able to validate correct statements, and recognize and select from a list.
	Recalling	The student will be able to exemplify, name, list, and label.
	Executing	The student will be able to perform a procedure without significant error (but not necessarily understand how and why the procedure works).

Figure 1. Adapted version of *The New Taxonomy* (Marzano & Kendall, 2007, pg. 119-120).

The New Taxonomy developed by Robert Marzano and John Kendall (2007) provided guidance for determining how the students could work through the scenarios. While SBL has been reported as successful throughout the available literature, there have been studies indicating high-stress and discomfort when students first encounter this new task (Alessio, 2004). To avoid a stressful situation, the tasks were scaffolded using the levels of The New Taxonomy (see Figure 1).

Each scenario was designed independently to work students through the problem-based learning cycle, as insightfully discussed in Hmelo-Silver (2004), and then the scenarios were organized through the semester to move students from low-chal-

lenge prompts to high-challenge prompts to ensure an increase in motivation (Nakamura & Csikszentmihalyi, 2002).

A beginning of the semester scenario, for instance, might prompt the students to explore the problem of high textbook prices. The scenario would be open ended, offering only the problem and a handful of sources from various mediums and perspectives. A scenario such as this would offer a relatable topic that pulls from their own experiences while still encouraging them to investigate solutions and the sustainability of those solutions, making for a low-stress and fun activity that is realistic, challenging, and relevant. An end of the semester scenario might offer a page-long description of a financial dilemma a CEO may

and a potential target audience for the written portion of the assignment, say the stakeholders of the company or even the divisions and employees that will be most affected by budget cuts. To increase the challenge of the scenario and more accurately determine if the SB prompt increased student understanding of audience-centered writing, the audience would not be explicitly provided within the instructions, but rather left for the students to determine to whom the final document should be addressed. Sources provided to the students may include the company's latest financial report, a description of all divisions in the company, the most recent company newsletters, and a local newspaper clip discussing the company's impact in the community. A late-term scenario such as this would be more challenging for students and involve tasks such as evaluating, setting goals, and determining the feasibility and sustainability of a plan. In this way, students move from low-challenge to high-challenge while scaffolding the six levels of The New Taxonomy by the end of the semester.

Even during the process of exploring a single scenario, the students work through the cognitive levels, as described by Marzano and Kendall (2007). Hmelo-Silver (2004) offers a thoughtful description of the problem-based learning (PBL) cycle, as shown in Figure 2, that each student would work through with a scenario. Students first "formulate and analyze the problem by identifying the relevant facts," followed by drafting a hypothesis (pg. 236). At this stage, students will realize "knowledge deficiencies relative to the problem," prompting them to conduct self-directed research to "evaluate their hypotheses in light of what they have learned" (pg. 236). The final stages of the cycle involve reflection of the proposed solution and evaluation of the solution based on the original relevant facts identified and the abstract consequences of the solution. All scenarios designed for this study follow the tenets of this cycle. While a review of the literature reveals other similar cycles, this figure provided by Hmelo-Silver (2004) proved the most useful for targeting and assessing the learning objectives in the composition course.

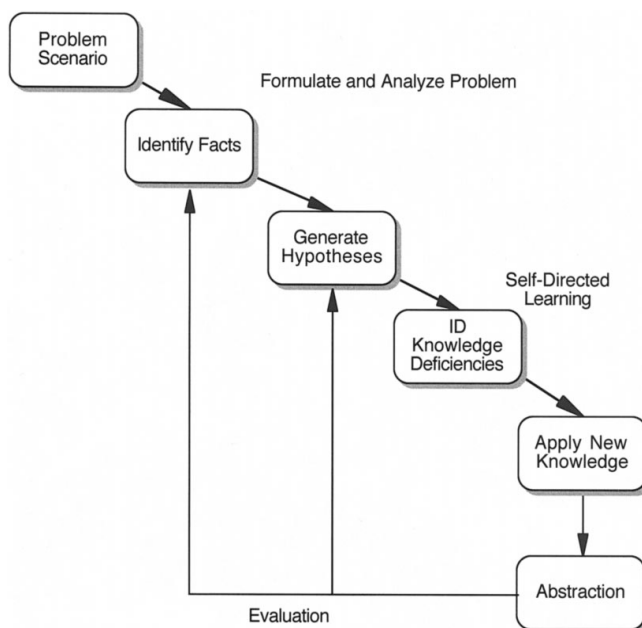


Figure 2. Hmelo-Silver's (2004) problem-based learning cycle demonstrating the process of approaching a prompt.

Pilot

A pilot study was completed in the fall semester with the quasi-experimental, mixed-methods study implemented in the spring semester. The pilot consisted of three first-year composition classes, 22 students per section for 66 participants, one of those classes serving as the control group and two classes as the experimental groups. The composition courses were the first in a two-sequence writing course requirement for degree-seeking students who either tested as college-ready or successfully completed the pre-college writing sequence. Students enrolled in the three courses had limited prior experience to audience-based writing, as the only previous writing courses were the secondary-level high school writing courses or the college preparatory writing courses.

The scenario-based learning prompts were used as formative assessments during the pilot. I assigned four formal essays using SBL prompts. The control group received only traditional essays for the first three essays, ending the semester with a final essay using an SBL prompt. The experimental groups completed both traditional essays and a follow-up SBL essay that presented a workplace application to the same topic as the traditional essay. The pilot study revealed problems within the study design, such as excessive essays in the experimental groups, repetition of topics in the experimental groups, and a lack of constructivism and scaffolding. While the students in the two experimental groups did in fact score higher in the A-C success range on not only the essays but also the end course grade, the flaws in the pilot could show higher scores resulting from the quantity of writing rather than the use of scenarios, not to mention the familiarity with SBL prompts by the final essay. The pilot study demonstrated some of the flaws with the study design, allowing me the opportunity to adjust the lesson plan for more accurate results to the research question during the spring semester study.

Study

Just as with the pilot, the spring semester study consisted of three composition classes, 22 students per section for 66 students, one section serving as the control group and two the experimental groups. I chose to use two classes for the experiment to compare to the control group in hopes of seeing consistent results with the use of scenario-based prompts, as just one experiment group showing success could easily be attributed to the time of day the class was held or the randomly enrolled students in the course. With two experimental groups, such variables are still factors and still uncontrollable, but the difference in results between the comparison groups and control group is more reliable.

Since the pilot showed an unfair advantage on the summative assessment for the experimental groups who had semester-long exposure to the scenario-based prompts, leaving unreliable results with the control group who may have scored poorly on the summative assessment merely from confusion at seeing a problem-based scenario for the first time in their life, the spring semester study included limited exposure to scenarios for all classes. The in-class activities for all three classes took the form of scenario-based (SB) prompts in order to scaffold the experiences and challenges and to ease the students from low-stress scenarios to high-challenge scenarios. The difference between the control group and the experimental groups was again in the essay assessments. The control group completed three traditional essay-format formative assessments and a final SB essay-for-

mat summative assessment. The experimental groups completed three SB essay-format formative assessments and the same final SB essay-format summative assessment as the control group. All classes were encouraged to write to an intended audience, but the scenario-based prompts provided a context while the traditional prompts left the context open to the students. The collected data consisted of the following three items: (a) grades on the three formative assessments, (b) grades on the summative assessment, (c) final semester grade average. Informally, I made observations throughout the semester and assigned a reflection essay to learn about the students' perceptions of the essays and SB prompts.

Data collected for the formative assessments consisted of assessment grades. I customized the scenario-based prompts to target the course SLOs. The students in the experimental groups were provided with the role, the task, the problem-based scenario, and the sources to evaluate. The goals of each SB assessment were to (a) evaluate sources for credibility, bias, reliability, (b) think critically about the scenario and the implications of the sources, (c) trace the causal relationships linked to both the problem and the possible solutions, (d) plan an argument to support and rationalize the decided solution, and (e) craft a written document that demonstrates students can effectively argue for a solution to an intended audience for a given purpose within a specified context.

Data collected from the summative assessment was made possible by a Student Success Initiative grant funded by the San Jacinto College Foundation. Through the use of the grant, the summative assessment could be studied by a blind-review committee. The blind-review ensured an unbiased calculation of the final essay scores. Since the research question asked if students could better understand and apply audience-centered writing by the final essay, an unbiased and blind-review by standardized means was important to the validity of the final results. The grant paid the Council for Aid to Education to conduct a standardized scenario-based exam as the formative assessment for all three classes. The exam, known as the Collegiate Learning Assessment Plus (CLA+), is a performance assessment that measures critical thinking, problem solving, scientific and quantitative reasoning, writing, and argument critique. While the content of the CLA+ is not different from the type of SB prompts the students encountered throughout the semester, the scoring of the CLA+ promised objectivity, breadth of learned concepts, and depth of audience-centered writing effectiveness. In terms of determining students' understanding and application of audience-centered writing, along with skills such as critical thinking, source synthesis, and analytic reasoning, the CLA+ appeared to be the most accurate test currently available (Benjamin, 2013, 2014), despite some of the weaknesses of the CLA+ scoring for determining if students are truly workplace ready (Possin, 2013), which was not a consideration during this study.

RESULTS

The data analyzed for determining if audience-centered writing as a Student Learning Objective of a composition and rhetoric course is better understood and applied as a writing skill when contextualized with a scenario-based prompt include the formative assessment grades, summative assessment grades, and final semester grade. All essays were graded using a rubric tailored to

the audience-centered writing. While the most accurate results came from the summative assessment to indicate which group(s) excelled at applying audience-centered writing, the grades of the formative assessments were still helpful. This results section will include the statistical significance of the essay grades, a description of the formative assessment grading process and results, as well as a description of the summative assessment grading process and results.

Statistically speaking, the study yielded significance. An independent-samples *t* test was conducted to evaluate the hypothesis that students better understood and applied audience-centered writing when using SB prompts. The test was significant, $t(218)=3.46$ $p = .001$, which supports the hypothesis that scenario-based prompts helped students contextualize audience-centered writing.

Of interest but not formally examined as part of the study, the retention rate for all three classes was 100%. The A-F success rates revealed an A-B class average in the two experimental groups and a C class average in the control group, as shown in Figure 3.

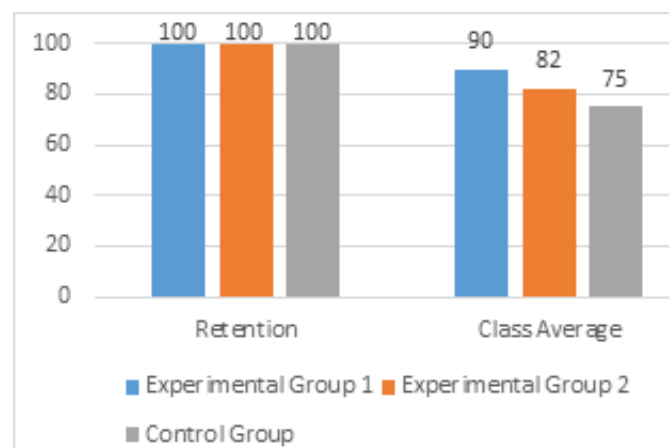


Figure 3. Retention rates and class averages for the two experimental groups and the one control group.

Formative Assessment

The formative assessments were scored using an adapted version of the rubric used by the Council of Aid to Education to score the CLA+. The rubric, as shown in Table 2, weighted 60% for audience-focus, 30% for writing effectiveness, and 10% for writing mechanics, so as to target the SLO of audience-centered writing and so as to test the effectiveness of the SB prompts in increasing the application of audience-centered writing skills to realistic contexts. The audience-focus portion of the rubric scored each essay's success at (a) having a clearly intended audience appropriate to the scenario, (b) stating an explicit position or solution as appropriate for the audience, (c) providing support and information as would be valued by the intended audience, refuting alternative positions or solutions if applicable for the intended audience, (d) using a writing style appropriate to the intended audience. (Appendix A)

The intention of each essay was to convey the information for an intended audience, so all choices made regarding organization, explanations, vocabulary, references, and so forth, should be directed to the intended audience. Much like the final class averages, the average of each formative assessment in both ex-

perimental groups stayed steady in the A-B range, while the control group averaged a C for each formative assessment, as shown in Figure 4. The students in the experimental groups who were exposed heavily to scenario-based prompts scored higher on the audience-focus portion of the scoring rubric, showing they were able to adjust multiple aspects of their writing to meet the needs of the intended audience. The student essays from the control group showed traditionally posed arguments that did not vary any aspects of the writing or have an intended audience, even when an intended audience was encouraged in the essay instructions. Without experiencing the writing in other contexts from the traditional composition essay, the students struggled to apply audience-centered writing techniques.

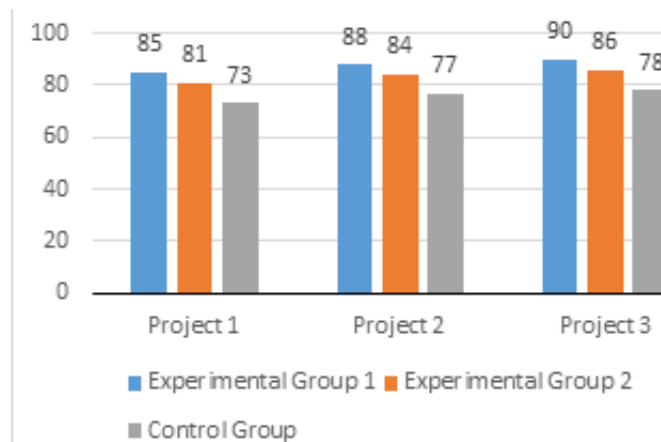


Figure 4. Class averages for each of the three formative assessments.

Summative Assessment

The summative assessment answered the research question well, as it showed if the students in the experimental groups were better able to apply audience-centered writing skills to other contexts after spending a semester working with scenario-based prompts. If the scenario-based prompts did not help the students see the application of this particular course skill, the scores should be similar in the final assessment to the control group's scores. The summative assessment using the CLA+ standardized performance task revealed that with mastery levels of Below Basic, Basic, Proficient, Accomplished, and Advanced, the experimental groups both scored higher percentages in the Proficient and Accomplished mastery level, while the control group scored higher percentages in the Basic mastery level. The SB essay itself, called the Performance Task in the CLA+, is scored on a scale of 1-6, 6 being the highest score, based on analysis and problem solving, writing effectiveness, and writing mechanics. In the two experimental groups, the average scores for each of the three categories was a 4, with several students in each of the two groups scoring a 5 on the SB essay. In the control group, the average scores for each of the three categories in the SB essay was a 3 or below.

Given the freshman status and the demographic considerations, especially that many are first generation college students and English as a second language speakers, and also given that the CLA+ is more often taken by students about to complete their college degree rather than their first semester of college, seeing scores of 5 out of 6 on a timed, blind-reviewed SB essay is a study result worth considering. Such a result indicates that students

who practiced audience-centered writing in multiple contexts are better able to apply the concept outside of the composition classroom, while those who have strictly used audience-centered writing techniques in the context of a traditional essay cannot as easily apply those techniques to a different type of writing or discourse community outside of the traditional essay.

DISCUSSION

All three classes encountered SBL activities during the semester. The SBL activities for the control group were only low-stake, in-class team assignments, so the students still struggled to apply the writing skills during the final assessment which took the form of a real-world situation. Moving from the traditional essay to a more realistic workplace context proved difficult for the control group. The two experimental groups that had practiced applying the skills to realistic situations for each of their formative assessments successfully transferred knowledge to the summative assessment. Regardless of the context, audience, and purpose provided by the SB prompts, the students were able to apply the skills they honed over the semester.

With the combination of the pilot and the study, it seems that when students had no exposure to SBL activities, as occurred during the pilot, they could not easily understand or successfully transfer the course SLOs to other contexts, although within the context of the traditional composition essay, they showed acceptable understanding of the course concepts, namely audience-centered writing. It would also seem that when students had exposure to low-stakes SBL activities throughout the semester, they could more easily understand the course SLOs (as indicated by an informal comparison of essay grades between the pilot control group and the study control group) but still struggled during the process of applying that knowledge to other contexts. The most successful results of students understanding and successfully transferring the course SLOs were in the final two experimental groups that experienced both low-stakes SBL activities and challenging SBL projects that incorporated the six levels of processing of The New Taxonomy.

An unexpected discovery from the research was that all classes exposed to the scenario-based learning approach demonstrated critical thinking and analytic reasoning skills beyond that of previous traditional classes. I have no doubt from my observations that the SBL approach increased students' ability to think critically and reason analytically. Other noted improvements from previous traditional classes included social interaction between teammates, problem solving and evaluation, decision making, and reflection.

As far as answering the research question about the transferability of audience-centered writing skills, the most successful classes were those where students were engaged in challenging SBL projects. The low-stakes SBL activities alone were not enough to help students reach that meaning-making stage of learning where they see the application to multiple contexts. It was, admittedly, my hope that even one well-designed SBL activity would spark recognition in the usefulness of the course material, but results of the study say otherwise. As previously mentioned, the primary goal of the study was to connect SBL to the course SLOs, specifically that of audience-centered writing, but the study revealed secondary and somewhat unexpected results that even when the primary goal was not being significantly

met, the SBL experience increased other cognitive skills worth exploring. For a Gen Ed course not focused on audience-centered writing, the low-stakes SBL activities alone should yield promising results in critical thinking, analytical reasoning, and problem solving, but for a composition course, the most successful approach is to combine the low-stakes SBL activities with the challenging SBL projects so the students have the opportunity to practice skill transfer.

The study was not without limitations. For starters, while the summative assessment was reviewed blindly by a professional team without bias to the students or the study, the formative assessments may have been unintentionally graded with a bias due to my desire for the study to succeed. I used a rubric during the grading process and received external aid during the data analysis process to eliminate bias, but bias must still be considered when determining limitations. Another aspect that could have affected results was the high number of English Language Learners, an aspect that could be made a more integral part of the result analysis in a future study. Other possible influences could have affected student performance, such as the novelty of the scenarios, the class dynamics, and the enthusiasm of the professor in introducing the scenarios. One of the most significant limitations was the study size. For additional insights, a larger scale follow-up study could be done to widen the scope of the experiment, such as including more experimental groups, varying the demographics of student participants, utilizing different instructors for each of the experimental groups to discourage researcher bias in the formative assessments, and involving other Gen Ed courses. For future studies, I recommend a more thorough examination of all other factors that could influence the summative grade, so the course grades will more accurately measure the effectiveness of the SB prompts.

Future Research

The secondary themes discovered inspire me to continue using both SBL activities and SBL projects in the composition class. Scenarios build relationships, relevance, and rigor (Daggett 2008). For that reason alone, they seem worth the effort. SBL success in the classroom for a Gen Ed class, as determined from the design of the low-stakes SB activities compared to the high-challenge SB projects and the study results, is somewhat dependent on the design of the scenario itself. Clark (2009), Ioannou et al (2015), Sheppard and Schar (2014), and Rico and Ertmer (2015) all recommend using multi-modal strategies for both scenario design and implementation. Clark (2009) recommends incorporating multimedia sources within the design of the prompt, such as videos, photos, audio recordings, blogs, wikis, and so forth. Rico and Ertmer (2015) recommend implementation strategies that will enhance the instructor's role as facilitator, such as role play, debates, games, guided questions, and presentations. Ioannou et al (2015) completed a case study that mixed scenarios with technology in order to enhance the experience. Sheppard and Schar (2014) offer example videos and worksheets that could be included in the scenario.

A discussion on teaching critical thinking by Nicholas and Riader-Roth (2016) highlights the need for more multidisciplinary activities in the classroom, along with an alignment of how critical thinking is perceived across disciplines. SBL by its very nature crosses disciplines and promotes critical thinking. Scenarios are designed by each instructor using whatever topic,

sources, and tasks desired, so customizing them for course learning outcomes and cross-disciplinary purposes is easy. The scenarios I have recently designed for my courses involve aspects of financial planning, environmental conservation, entrepreneurial endeavors, and ethical decision making. The students, in this way, have the opportunity to think and make decisions as though they were in the workplace. Given the right prompt topic, they could be CEO for a day and decide in which country they want to expand their growing company based on market trends, foreign relationships, and so forth. I want students to discover the application of course skills and cognitive strategies to other tasks, classes, jobs, and even personal purposes. There is no denying that designing scenarios for any active learning approach such as problem-based learning, inquiry-based learning, or case-based learning is time consuming since the instructor must create a hypothetical but realistic situation that reflects learning objectives, allows for a connection between prior knowledge and problem, and encourages self-directed learning (Sackalingam & Schmidt, 2012), while also researching or developing from scratch a variety of source material, assigning a task and a role appropriate to the learning objectives, and arranging the teams for any collaborative aspects of the scenario. The result is worth the effort. Even the students find the approach engaging and motivating (Friesen & Scott, 2013; Munday & Stewart, 2010). Who knew how excited freshman students in a composition and rhetoric course could be by serving in the scenario-assigned role of a college chancellor faced with looming budget cuts?

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APPENDIX A

Table 2: Scoring Rubric for Formative Assessments

Scoring Rubric	F	D	C	B	A
Audience Focus 60% <i>Communicating an organized and cohesive solution to the intended audience</i>	<p>Writes for a general or vague audience.</p> <p>Demonstrates minimal attention to solving the problem.</p> <p>Includes limited, invalid, or unclear support.</p> <p>Uses an ineffective or inappropriate writing style for the scenario.</p>	<p>Implies an intended audience.</p> <p>Implies a solution.</p> <p>Attempts support.</p> <p>Attempts a writing style appropriate to the scenario.</p>	<p>Implies an intended audience.</p> <p>Implies a solution.</p> <p>Attempts support.</p> <p>Attempts a writing style appropriate to the scenario or intended audience.</p>	<p>Writes for an intended audience.</p> <p>States a solution.</p> <p>Provides support, refuting alternative positions or solutions if applicable.</p> <p>Uses a writing style appropriate to the scenario or intended audience.</p>	<p>Writes for a clearly intended audience appropriate to the scenario.</p> <p>States a solution as appropriate for the audience.</p> <p>Provides support valued by the intended audience, refuting alternative positions or solutions if applicable.</p> <p>Uses a writing style appropriate to the intended audience.</p>
Writing Effectiveness 30% <i>Making a logical decision void of pro-con viewpoints and supporting the decision</i>	<p>Lacks organization.</p> <p>Lacks elaboration on supporting points.</p>	<p>Organizes minimally.</p> <p>Provides limited elaboration.</p>	<p>Organizes unclearly or illogically.</p> <p>Provides minimal elaboration on supporting points.</p>	<p>Organizes thoughtfully.</p> <p>Provides some elaboration on supporting points.</p>	<p>Organizes logically.</p> <p>Provides elaboration on supporting points.</p>
Writing Mechanics 10% <i>Demonstrating control of standard written English and style, including syntax and diction</i>	<p>Writes with poor English grammar.</p> <p>Uses sentences difficult to understand and mostly grammatically incorrect.</p>	<p>Struggles to grasp conventional English grammar.</p> <p>Uses mostly simple sentences or grammatically incorrect sentence structure.</p>	<p>Writes with basic understanding of English grammar.</p> <p>Uses consistent length and style of sentences.</p>	<p>Writes with strong control of the written English language.</p> <p>Varies moderately length and style of sentences.</p>	<p>Writes with mastery of the written English language.</p> <p>Varies length and style of sentences.</p>